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IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An apparatus for delivering a predetermined volume of liquid to a ~~plurality of delivery sites~~ site, which comprises:

a body defining a liquid pressure chamber and a pneumatic pressure chamber, said chambers separated from one another by a flexible membrane member;

~~a plurality of at least one liquid channels~~ channel in said body connecting said liquid pressure chamber to a ~~plurality of delivery ports~~ port to deliver liquid to said delivery ~~sites~~ site;

a ~~plurality~~ pair of valves associated with said liquid channel, one valve upstream of said liquid pressure chamber and one valve downstream of said liquid pressure chamber, at least said downstream valve being pneumatically operated; ~~channels, each channel having at least one valve,~~

said flexible member exerting pressure on a liquid when said liquid pressure chamber is filled with said liquid and pneumatic pressure is exerted on said flexible member through said pneumatic pressure chamber; and

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a prescribed volume of liquid ~~is being~~ delivered through said ~~channels~~ channel to and out of said delivery ~~ports~~ port when said ~~valves are~~ dowstream valve is opened.

2. (Currently Amended) The delivery apparatus as recited in claim 1, wherein said body includes a heart-type valve pump that includes said pressure chambers and said flexible member, and a fluid delivery manifold with an elongated port ~~communicating in~~ fluid communication with ~~said~~ a plurality of liquid channels.

3. (Original) The delivery apparatus as recited in claim 2, wherein said fluid delivery manifold comprises a plurality of manifold modules assembled in side-by-side relation.

4. (Currently Amended) The delivery apparatus as recited in claim 1, wherein said liquid pressure chamber and said pneumatic pressure chamber are elongated chambers with mating elongated openings separated and closed by said flexible member, and a ~~said~~ plurality of liquid channels are connected directly to said liquid pressure chamber through a fluid delivery manifold which also includes ~~said~~ a plurality of delivery ports.

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5. (Currently Amended) The delivery apparatus as recited in claim 4, wherein said pneumatic pressure chamber is a low pressure chamber, ~~said plurality of delivery valves are pneumatic valves,~~ and a second pneumatic pressure chamber exerts a high pressure on said ~~delivery~~ pneumatically operated downstream valves to maintain said ~~delivery~~ downstream valves in a closed condition except when delivering liquid through said liquid channels to said delivery ports.

6. (Currently Amended) The delivery apparatus as recited in claim 5, wherein the volume of liquid delivered to said delivery ports is controlled by the amount of time the ~~pneumatic delivery~~ pneumatically operated valves are opened by release of high pressure from the high pressure pneumatic chamber.

7. (Currently Amended) The delivery apparatus as recited in claim 5, wherein said low pressure pneumatic pressure chamber exerts a head pressure on said liquid in said liquid pressure chamber when air pressure is exerted in said low pressure chamber to cause liquid to flow through said liquid channels when said high pressure is released from said ~~pneumatic delivery~~ pneumatically operated valves.

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8. (Currently Amended) The delivery apparatus as recited in claim 1, wherein said delivery ~~ports are~~ port is formed integrally with said body and said liquid ~~channels are~~ channel is continuous in said body to an outlet of said delivery ~~ports~~ port.

9. (Canceled).

10. (Currently Amended) The fluid delivery apparatus as recited in claim 1, wherein said apparatus is reversible for delivering a prescribed volume of liquid out of said delivery ~~ports~~ port and for withdrawing a prescribed volume of liquid into said delivery ~~ports~~ port.

11. (Currently Amended) An apparatus for delivering a fixed ~~predetermined~~ volume of liquid to a plurality of delivery sites, which comprises:

a body defining a plurality of liquid channels each connected to a separate delivery port;

fluid dosage chambers associated with ~~each~~ said plurality of liquid ~~channel and channels, respectively,~~ each having a specified volume to measure a ~~prescribed~~ fixed volume of liquid to be repeatedly delivered out of each delivery port, said fixed

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volume of liquid determined by said specified fluid dosage chamber volume;

said liquid channels each having a first valve in advance of ~~said~~ a respective fluid dosage chamber to ~~control~~ transfer liquid into said chamber when ~~a vacuum is drawn in said fluid dosage chamber~~ said first valve is open; and

said liquid channels each having a second valve between said respective fluid dosage chamber and said delivery port to ~~control~~ transfer liquid out of said fluid dosage chamber and to said delivery port when the second valve is open and pneumatic pressure is applied to liquid in said fluid dosage chamber.

12. (Currently Amended) The delivery apparatus as recited in claim 11, wherein said body defines a reservoir connected to said liquid channels for delivering liquid through said channels to said fluid dosage ~~chamber~~ chambers when said first valve is open.

13. (Currently Amended) The delivery apparatus as recited in claim 11, wherein said apparatus is associated with an egg injection machine and delivers a fixed volume of vaccine uniformly to a plurality of injection needles mounted in said machine and associated with said delivery ports, said liquid channels each

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associated with a single needle for injection into eggs on said machine, and further comprising a flexible diaphragm associated with said fluid dosage chambers which flexes in a first direction to allow ~~creates said vacuum to draw~~ said prescribed fixed volume of liquid vaccine to be delivered into said fluid dosage ~~chamber~~ chambers when said first valve is open, said diaphragm flexing in a second direction opposite said first direction in response to said pneumatic pressure to force ~~and creates said pressure on~~ said prescribed fixed volume of liquid in vaccine out of said fluid dosage ~~chamber~~ chambers when said second valve is open.

14. (Currently Amended) The delivery apparatus as recited in claim 13, wherein said second valve is closed when said prescribed fixed volume of liquid vaccine is ~~drawn~~ delivered into said fluid dosage chamber and said first valve is closed when said prescribed fixed volume of liquid vaccine is pressured out of said fluid dosage chamber.

15. (Currently Amended) The delivery apparatus as recited in claim 11, wherein said apparatus is reversible to draw liquid out of multiple receptacles ~~by drawing a vacuum in and into~~ said fluid dosage chambers from said delivery ports when said second valves are open and said first valves are closed.

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16. (Original) The delivery apparatus as recited in claim 11, wherein said liquid channels are generally vertical and said first valves, said fluid dosage chambers and said second valves are spaced generally vertically in said body.

Claims 17-20. (Canceled).

21. (New) The delivery apparatus as recited in claim 11, further comprising a high pressure manifold coupled to a first side of a valve body having a plurality of generally circular cutouts in alignment with a corresponding plurality of generally circular openings in said first side, and a plurality of flexible valve elements secured between respectively aligned cutouts of said first side and said high pressure manifold to form said first and second valves transferring fluid flow through said liquid channels.

22. (New) The delivery apparatus as recited in claim 21, wherein said valves are aligned in an upper row and a lower row.

23. (New) The delivery apparatus as recited in claim 22, wherein said upper row includes said first valves in advance of said fluid dosage chambers and said lower row includes said second valves between said fluid dosage chambers and said delivery ports.

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24. (New) The delivery apparatus as recited in claim 21, further comprising a low pressure manifold coupled to a second side of said valve body including a plurality of cutouts positioned to align with a corresponding plurality of generally circular cutouts in said second side of said valve body, said respectively aligned cutouts of said second side of said valve body and said low pressure manifold forming an intermediate row of aligned cutouts that is generally parallel with said upper and lower rows and positioned therebetween, and a flexible membrane secured between said cutouts of said second side and said low pressure manifold to form said liquid dosage chambers between said membrane and the cutouts in said second side of said valve body.

25. (New) The delivery apparatus as recited in claim 24, wherein said liquid channels pass through a central portion of said valve body to define a generally linear flow, each liquid channel intersecting a respective first valve, a respective fluid dosage chamber and a respective second valve before reaching a respective delivery port.

26. (New) The delivery apparatus as recited in claim 24, wherein said flexible membrane is a unitary member that extends longitudinally to form a dividing wall between said low pressure

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manifold cutouts and said respectively aligned cutouts of said second side of said valve body.

27. (New) An apparatus for delivering a fixed volume of liquid simultaneously to multiple delivery sites, which comprises:

- a body defining multiple liquid channels individually connected to multiple delivery ports, respectively;

- a common delivery channel for delivering liquid to an input of each of said multiple liquid channels;

- at least one pneumatically operated valve operatively associated with each liquid channel, said valve including a generally cone-shaped flexible valve element extending into said liquid channel and an aligned cutout in said body for receiving an outside tip of said generally cone-shaped flexible valve element;

- a common high-pressure pneumatic channel pneumatically connected to each of said cone-shaped flexible valve elements to deliver high pressure to an inside surface of said cone-shaped flexible valves to force said outside tip of said cone-shaped flexible valves into said aligned cutouts to simultaneously close said valves; and

- a fixed volume of liquid being delivered out of each of said delivery ports when pneumatic pressure is released in said common pneumatic channel to simultaneously open said valves.

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28. (New) The delivery apparatus as recited in claim 27, wherein said body includes multiple generally circular cutouts on one side of said liquid channels aligned with said aligned cutouts positioned on an opposite side of said liquid channels, said generally cone-shaped flexible valve elements each having a generally circular base received in a respective generally circular cutout of said body.

29. (New) The delivery apparatus as recited in claim 27, wherein each liquid channel includes at least two valves, a first valve corresponding with said generally cone-shaped flexible valve element, and a second valve including a floating ball valve located upstream of said first valve.

30. (New) The delivery apparatus as recited in claim 29, wherein said apparatus further comprises a vaccine delivery assembly including a heart-type valve pump having a liquid pressure chamber and a pneumatic pressure chamber separated from one another by a flexible diaphragm, said second valve transferring fluid to said liquid pressure chamber.

31. (New) The delivery apparatus as recited in claim 27, further comprising an elongated low pressure air chamber sealingly

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separated from an elongated vaccine delivery chamber by an elastomeric diaphragm, said vaccine delivery chamber communicating with each of said multiple delivery ports via said pneumatically operated valves.

32. (New) The delivery apparatus as recited in claim 31, wherein each liquid channel includes at least two valves, a first valve corresponding with said generally cone-shaped flexible valve element, and a second valve including a further pneumatic valve associated with said vaccine delivery chamber, said second valve preventing liquid from flowing into or out of said vaccine delivery chamber.

33. (New) The delivery apparatus as recited in claim 28, wherein each liquid channel has two pneumatically operated valves associated therewith, a first of said two valves being nearest said input and a second of said two valves being nearest said delivery port, each of said valves including a generally cone-shaped flexible valve element extending into said liquid channel toward a respectively aligned cutout in said body for receiving an outside tip of said generally cone-shaped flexible valve elements, and a vaccine dosage chamber communicating with said liquid channel

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between said first and second valves, said vaccine dosage chamber defining said fixed volume of liquid.

34. (New) The delivery apparatus as recited in claim 33, wherein said second valve is closed when said fixed volume of liquid is delivered to said fluid dosage chamber and said first valve is closed when said fixed volume of liquid is pressured out of said fluid dosage chamber.

35. (New) The delivery apparatus as recited in claim 34, further comprising a high pressure manifold coupled to a first side of a valve body and a low pressure manifold coupled to a second side of said valve body, said high pressure manifold having a plurality of generally circular cutouts in alignment with multiple generally circular cutouts in said valve body which are in said first side, said generally cone-shaped flexible valve elements having a generally circular base secured in said generally circular cutouts of said high pressure manifold and said valve body.

36. (New) The delivery apparatus as recited in claim 35, wherein said first valves are aligned in an upper row and said second valves are aligned in a lower row.

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37. (New) The delivery apparatus as recited in claim 36, wherein said low pressure manifold includes a plurality of cutouts which are positioned to align with a corresponding plurality of generally circular cutouts in said second side of said valve body, said respectively aligned cutouts of said second side of said valve body and said low pressure manifold forming an intermediate row of aligned cutouts that is generally parallel with said upper and lower rows and positioned therebetween, and a flexible membrane secured between said cutouts of said second side and said low pressure manifold to form said liquid dosage chambers between said membrane and the cutouts in said second side of said valve body.

38. (New) An apparatus for delivering a fixed volume of liquid to a plurality of delivery sites, which comprises:

- a body defining a plurality of liquid channels connected to a plurality of separate delivery ports, respectively;

- a liquid reservoir for delivering liquid to an input of each of said plurality of liquid channels;

- a plurality of fluid dosage chambers associated with said plurality of liquid channels, respectively, each fluid dosage chamber having a specified volume to define a fixed volume of liquid to be repeatedly delivered out of a respective one of said

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delivery ports, said fixed volume of liquid being determined by said specified fluid dosage chamber volume;

said liquid channels each having a first pneumatically operated valve in advance of a respective fluid dosage chamber to transfer liquid into said chamber when said first valve is open;

said liquid channels each having a second pneumatically operated valve between said respective fluid dosage chamber and said delivery port to transfer liquid out of said fluid dosage chamber and to said delivery port when the second valve is open and pneumatic pressure is applied in said fluid dosage chamber; and

a flexible member associated with said fluid dosage chambers and in contact with liquid contained therein, said flexible member flexing in a first direction when liquid is delivered to said liquid channels from said reservoir such that said fluid dosage chambers obtain said specified volume, said flexible member flexing in a second direction, substantially opposite said first direction, in response to said pneumatic pressure to reduce said specified volume and force said specified volume of liquid out of said fluid dosage chambers and into said delivery ports.

39. (New) The delivery apparatus as recited in claim 38, wherein said second valve is closed when said fixed volume of

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liquid is delivered to said fluid dosage chamber and said first valve is closed when said fixed volume of liquid is pressured out of said fluid dosage chamber.

40. (New) The delivery apparatus as recited in claim 39, further comprising a high pressure manifold coupled to a first side of a valve body and a low pressure manifold coupled to a second side of said valve body, said high pressure manifold having a plurality of generally circular cutouts in alignment with a corresponding plurality of generally circular openings in said first side, and a plurality of flexible valve elements secured between respectively aligned cutouts of said first side and said high pressure manifold to form said first and second valves for transferring fluid flow through said liquid channels, said first valves being aligned in an upper row and said second valves being aligned in a lower row.

41. (New) The delivery apparatus as recited in claim 40, wherein said low pressure manifold includes a plurality of cutouts positioned to align with a corresponding plurality of generally circular cutouts in said second side of said valve body, said respectively aligned cutouts of said second side of said valve body and said low pressure manifold forming an intermediate row of

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aligned cutouts that is generally parallel with said upper and lower rows and positioned therebetween such that said first valves are in advance of said fluid dosage chambers and said second valves are between said fluid dosage chambers and said delivery ports, said flexible member being secured between said cutouts of said second side and said low pressure manifold to form said liquid dosage chambers between said membrane and the cutouts in said second side of said valve body.

42. (New) The fluid delivery apparatus as recited in claim 38, wherein said apparatus is reversible for delivering a prescribed volume of liquid out of said delivery ports and for withdrawing a prescribed volume of liquid into said delivery ports.